(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
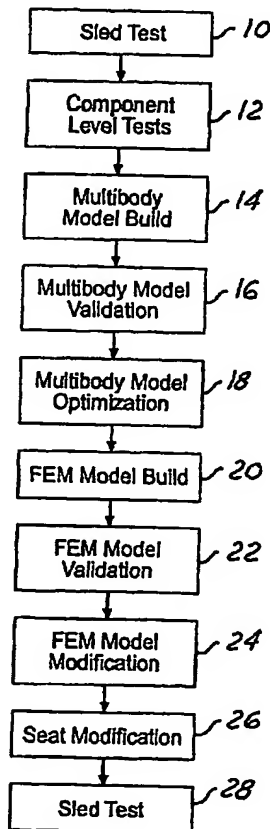19 August 2004 (19.08.2004)   PCT

(10) International Publication Number
WO 2004/069583 A2

(72) Inventors; and
(75) Inventors/Applicants (for US only): REED, Steven,
James [US/US]; 8835 McGregor Lane, Pinckney, MI
48169 (US). MILOSIC, Mari, C. [US/US]; 1383 Bed-
ford, Grosse Pointe Park, MI 48230 (US). FURTADO,
Roland [IN/US]; 19458 Silver Spring Drive Apt. #204,
Northville, MI 48167 (US).

(74) Agents: ASHER, Robin, W. et al.; Clark Hill PLC, Suite
3500, 500 Woodward Avenue, Detroit, MI 48226-3435
(US).

[Continued on next page]

(54) Title: METHOD OF DESIGNING AUTOMOTIVE SEAT ASSEMBLIES FOR REAR IMPACT PERFORMANCE

(57) Abstract: A method for designing automobile seat assemblies in which a
sled test is run on a prototype seat assembly in order to obtain the necessary data
to model the seat assembly with simulation software. A basic model of the sur-
face of the seat assembly is built utilizing simulation software and tests are run
on various parameters to determine those that are most significant to the desired
objective of the design process. Thereafter, the software is used to build a detailed
model of the seat assembly and all its elements and the significant parameters are
tested further to determine those that are again most significant to achieving the
desired outcome. Once optimization ranges for those most significant parameters
are chosen, the prototype seat assembly is modified accordingly. A final sled test
is run on the modified prototype to verify the results and compare those results
with the original sled test results.

WO 2004/069583 A2

GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— *without international search report and to be republished upon receipt of that report*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.